6/17/01

2001 BIOSIS

```
      Set  Items  Description
      ---  -----  -----------
?
PLEASE ENTER A COMMAND OR BE LOGGED OFF IN 5 MINUTES
? s neuropilin? and (antisens? or ribozym?)
            349  NEUROPILIN?
          28925  ANTISENS?
           5071  RIBOZYM?
      S1       2  NEUROPILIN? AND (ANTISENS? OR RIBOZYM?)
? rd
...completed examining records
      S2       1  RD (unique items)
? s vegf (w) 165 and (antisens? or ribozym?)
           8608  VEGF
          18161  165
            203  VEGF(W)165
          28925  ANTISENS?
           5071  RIBOZYM?
      S3       4  VEGF (W) 165 AND (ANTISENS? OR RIBOZYM?)
? rd
...completed examining records
      S4       3  RD (unique items)
? s s2 or s4
              1  S2
              3  S4
      S5       3  S2 OR S4
? t s5/3,ab/all

 5/3,AB/1     (Item 1 from file: 155)
DIALOG(R)File 155:MEDLINE(R)
(c) format only 2001 Dialog Corporation. All rts. reserv.
```

11249557 21234942 PMID: 11336478

Inhibition of breast cancer growth in vivo by antiangiogenesis gene therapy with adenovirus-mediated **antisense**-VEGF.

Im SA; Kim JS; Gomez-Manzano C; Fueyo J; Liu TJ; Cho MS; Seong CM; Lee SN ; Hong YK; Yung WK

Departments of Internal Medicine

British journal of cancer (Scotland) May 2001, 84 (9) p1252-7, ISSN 0007-0920 Journal Code: AV4

Languages: ENGLISH

Document type: Journal Article

Record type: In Process

Increased expression of VEGF in several types of tumours has been shown to correlate with poor prognosis. We used a replication-deficient adenoviral vector containing **antisense** VEGF cDNA (Ad5CMV-alphaVEGF) to down-regulate VEGF expression and increase the efficiency of delivery of the **antisense** sequence in the human breast cancer cell line MDA231-MB. Transfection of these cells with Ad5CMV-alphaVEGF in vitro reduced secreted levels of VEGF protein without affecting cell growth. Moreover, injection of the Ad5CMV-alphaVEGF vector into intramammary xenografts of these cells established in nude mice inhibited tumour growth and reduced the amount of VEGF protein and the density of microvessels in those tumours relative to tumours treated with the control vector Ad5(dl312). Our results showed that **antisense VEGF(165**)cDNA was efficiently delivered in vivo via an adenoviral vector and that this treatment significantly inhibited the growth of established

experimental breast tumours. The Ad5CMV-alphaVEGF vector may be useful in targeting the tumour vasculature in the treatment of breast cancer. Copyright 2001 Cancer Research Campaign http://www.bjcancer.com Copyright 2001 Cancer Research Campaign.

5/3,AB/2 (Item 2 from file: 155)
DIALOG(R)File 155:MEDLINE(R)
(c) format only 2001 Dialog Corporation. All rts. reserv.

10895430 20560550 PMID: 11106562
Production of experimental malignant pleural effusions is dependent on invasion of the pleura and expression of vascular endothelial growth factor/vascular permeability factor by human lung cancer cells.
Yano S; Shinohara H; Herbst RS; Kuniyasu H; Bucana CD; Ellis LM; Fidler IJ
Department of Cancer Biology, The University of Texas M. D. Anderson Cancer Center, Houston, Texas, USA.
American journal of pathology (UNITED STATES) Dec 2000, 157 (6) p1893-903, ISSN 0002-9440 Journal Code: 3RS
Contract/Grant No.: CA16672, CA, NCI; R35-CA424107, CA, NCI
Languages: ENGLISH
Document type: Journal Article
Record type: Completed
We determined the molecular mechanisms that regulate the pathogenesis of malignant pleural effusion (PE) associated with advanced stage of human, non-small-cell lung cancer. Intravenous injection of human PC14 and PC14PE6 (adenocarcinoma) or H226 (squamous cell carcinoma) cells into nude mice yielded numerous lung lesions. PC14 and PC14PE6 lung lesions invaded the pleura and produced PE containing a high level of vascular endothelial growth factor (VEGF)-localized vascular hyperpermeability. Lung lesions produced by H226 cells were confined to the lung parenchyma with no PE. The level of expression of VEGF mRNA and protein by the cell lines directly correlated with extent of PE formation. Transfection of PC14PE6 cells with **antisense** VEGF165 gene did not inhibit invasion into the pleural space but reduced PE formation. H226 cells transfected with either sense **VEGF 165** or sense VEGF 121 genes induced localized vascular hyperpermeability and produced PE only after direct implantation into the thoracic cavity. The production of PE was thus associated with the ability of tumor cells to invade the pleura, a property associated with expression of high levels of urokinase-type plasminogen activator and low levels of TIMP-2. Collectively, the data demonstrate that the production of malignant PE requires tumor cells to invade the pleura and express high levels of VEGF/VPF.

5/3,AB/3 (Item 3 from file: 155)
DIALOG(R)File 155:MEDLINE(R)
(c) format only 2001 Dialog Corporation. All rts. reserv.

10714854 20379288 PMID: 10919846
Coexpression of **neuropilin**-1, Flk1, and VEGF(164) in developing and mature mouse kidney glomeruli.
Robert B; Zhao X; Abrahamson DR
Department of Anatomy and Cell Biology, University of Kansas Medical Center, Kansas City 66160-7400, USA.
American journal of physiology (UNITED STATES) Aug 2000, 279 (2) pF275-82, ISSN 0363-6127 Journal Code: DKS
Contract/Grant No.: DK-34972, DK, NIDDK; DK-52483, DK, NIDDK
Languages: ENGLISH
Document type: Journal Article
Record type: Completed
Neuropilin -1, a neuronal cell surface semaphorin III receptor protein important for axonal guidance in developing peripheral nervous system efferents, has also been identified as a vascular endothelial growth

factor (VEGF) receptor on endothelial cells. To evaluate its expression in kidney, we carried out RT-PCR on newborn and adult [redacted]al renal RNAs. A 403-bp product, which was predicted to be that from **neuropilin**-1 mRNA, was found in both samples. Nucleotide sequencing confirmed that these products encoded **neuropilin**-1. Northern analysis of newborn and adult kidney RNA showed specific hybridization to appropriately sized bands of approximately 6 kb. In situ hybridization with a mouse-specific **antisense neuropilin** -1 (35)S-cRNA probe showed distinct glomerular localization on sections from both newborns and adults. Similar patterns of hybridization were seen in sections treated with **antisense** cRNA probes against another VEGF receptor, Flk1, and with VEGF probes. However, the VEGF hybridization signal was markedly less in adult glomeruli than those for **neuropilin**-1 and Flk1. Because **neuropilin**-1 specifically binds **VEGF(165)** in humans, we carried out RT-PCR on mouse kidney RNA with primers that amplified the three alternatively spliced isoforms of VEGF mRNA. Our analysis showed that for both newborn and adult kidneys, the relative abundance of VEGF mRNA was VEGF(164) >> VEGF(120) > VEGF(188). We conclude that the expression of **neuropilin** -1, in conjunction with Flk1 and VEGF(164), jointly contributes to the development and maintenance of glomerular capillaries.